

### **REMARKS**

This communication responds to the Office Action mailed on December 21, 2005. Claims 1 and 11 are amended, no claims are canceled, and no claims are added. As a result, claims 1-16 are now pending in this Application.

#### **Information Disclosure Statement**

The Applicant submitted an Information Disclosure Statement and a 1449 Form on September 5, 2003. The Applicant respectfully requests that an initialed copy of the 1449 Form be returned to the Applicant's Representative to indicate that the cited documents have been considered by the Examiner.

#### **Double Patenting Rejection**

Claims 1-16 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,648,204. To address this concern, a Terminal Disclaimer in compliance with 37 CFR 1.321(b) (IV) is enclosed herewith.

#### **§102 Rejection of the Claims**

Claims 1 and 11 were rejected under 35 USC § 102(b) as being anticipated by Karavakis (U.S. 5,663,106; hereinafter "Karavakis"). First, the Applicant does not admit Karavakis is prior art and reserve the right to swear behind this reference in the future. Second, because the Applicant asserts that Karavakis does not disclose the identical invention as claimed, the Applicant respectfully traverses this rejection of the claims.

Claims 1 and 11 have been amended to make clear that the alignment weight claimed by the Applicant includes depressions having a "substantially flat interface" to receive a plurality of pins (see the substantially flat interface in the depressions 108 shown in FIG. 3 of the Application, receiving the ends 314 of the pins 302). No new matter has been added.

The hemispherical dimples 48 of Karavakis do not have this feature. *See* Karavakis, FIG. 7. Since what is disclosed by Karavakis is not identical to the subject matter of the embodiments claimed, reconsideration of the rejection under 35 USC § 102(b), and allowance of claims 1 and 11, is respectfully requested.

### §103 Rejection of the Claims

Claims 1-16 were rejected under 35 USC § 103(a) as being unpatentable over Matsui (U.S. 5,743,009; hereinafter “Matsui”) in view of “Applicant’s Admitted Prior Art” (hereinafter “AAPA”). First, the Applicant does not admit that Matsui is prior art and reserves the right to swear behind this reference in the future. Second, since a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2142, the Applicant respectfully traverses these rejections.

No proper *prima facie* case of obviousness has been established because combining the references does not teach all of the limitations set forth in the claims, there is no motivation to combine the references, and combining the references provides no reasonable expectation of success. Each of these points will be explained in detail, as follows.

#### Combining The References Does Not Teach All Claim Limitations.

First, with respect to independent claims 1, 7, and 11, as admitted by the Office, Matsui does not disclose an apparatus wherein “selected ones of the number of depressions are configured to receive only one of the pins” (claim 1), or wherein “each of the plurality of depressions is configured to receive only one of the pins of the floating pin field” (claim 7), or having “a plurality of pins adjacent the circuit board and a corresponding plurality of depressions in the alignment weight” (claim 11). Rather, Matsui teaches a “grooved jig 215”, which has “[a] number of grooves 216 ... formed in a lower surface of the grooved jig 215.” Such grooves are not the same as the depressions claimed by the Applicant, and would be unable to hold individual pins in substantially “straight-up” or “vertical” alignment, as claimed by the Applicant. *See* Matsui, Col. 6, lines 52-53. In fact, Matsui must use grooves because *chains* of contact pin parts are held, rather than individual pins.

The AAPA also fails in this respect. While the Office alleges that the “AAPA teaches a contact pin connection in the shape of a dot at the tip of the pin” this is not the same thing as

what is claimed by the Applicant, nor does it provide motivation to modify Matsui. Therefore, no combination of Matsui and the AAPA can be made to provide depressions in an alignment weight, as claimed by the Applicant.

While it is true that the deficiencies of the individual references have been discussed, as asserted by the Office, the Applicant respectfully notes that the *combination* of references will not provide what is claimed. That is, if the elements noted above are not present in either reference, and there is no suggestion to modify existing elements to provide what is claimed, then no combination of the references will provide the missing elements. In this case, the suggestion or teaching of modifying “the jig of Matsui to utilize substantially circular holes” is nowhere to be found in either Matsui or the AAPA. In fact, as noted in the Application, Matsui teaches precisely what the Applicant hopes to remedy using the claimed embodiments:

“One problem with printed circuit boards that use a floating pin field design may arise when pins are soldered to the bottom of the printed circuit board. Generally, the pins are held in place with a pin field carrier. The printed circuit board is patterned with solder paste at the locations where the pins are to connect to the printed circuit board. The pins and the pin field carrier are placed on the board and the solder undergoes a reflow process. ... So-called “solder bridges”-- solder material that extends over a significant distance between a pin and the printed circuit board -- can be formed, for example, when a pin moves away from the printed circuit board during the reflow process. These solder bridges provide a poor, brittle mechanical connection for the pin and can lead to open solder joints during use. ... This can result in a significant waste of resources when fabricating electronic modules using floating pin fields.” Application, pg. 1, line 31 – pg. 2, line 12.

Therefore, since no combination of Matsui or the AAPA can provide the missing elements claimed by the Applicant in independent claims 1, 7, and 11, a *prima facie* case of obviousness has not been established. Further, it is respectfully noted that if an independent claim is nonobvious under 35 USC § 103, then any claim depending therefrom is also nonobvious. *See* M.P.E.P. § 2143.03. Therefore, claims 2-6, 8-10, and 12-16 are also nonobvious.

**There is No Motivation to Combine The References.**

As noted immediately above, Matsui teaches the use of a fixture that produces the same problems observed by the Applicant. *See* Matsui, FIG. 1 and Col. 8, lines 1-7. This situation is described by the AAPA, and thus, the AAPA merely reinforces the fact that the approach espoused by Matsui can result in solder bridges. Therefore, the AAPA provides no motivation to modify what is taught by Matsui.

**Combining the References Provides No Reasonable Expectation of Success.**

Modifying Matsui's grooved jig 215 to incorporate the AAPA's carrier would result in breaking off the connection members between the pins as the jig was pressed against the members, before soldering was complete. *See* Matsui, Col. 8, lines 8-21. Thus, Mitsui teaches away from modifying the grooved jig 215 to provide circular holes. If such were attempted, an inoperative jig 215 would result.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). References must be considered in their entirety, including parts that teach away from the claims. *See* MPEP § 2141.02. The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01

Finally, there is no evidence in the record to support the assertion by the Office that the AAPA discloses "substantially circular holes" as recited in the Office Action. Even if such was disclosed, there is no evidence in the record that this modification would "accommodate pressing against the singular pins in order to ensure the pin parts are connected to the circuit board." Rather, the modification would tend to break the pin chains, as noted above. Thus, one of skill in the art would not have any reasonable expectation of success in combining Matsui and AAPA.

The use of an unsupported assertion by the Office does not satisfy the explicit requirements set forth by the *In re Sang Su Lee* court. *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002) (motivation must be supported by evidence in the record).

Thus, the Examiner appears to be using personal knowledge, and is thus respectfully requested to submit an affidavit as required by 37 C.F.R. § 1.104(d)(2).

In summary, none of the references disclose an apparatus wherein “selected ones of the number of depressions are configured to receive only one of the pins,” or wherein “each of the plurality of depressions is configured to receive only one of the pins of the floating pin field,” or having “a plurality of pins adjacent the circuit board and a corresponding plurality of depressions in the alignment weight” as set forth in independent claims 1, 7, and 11. There is no motivation to combine the references, and no reasonable expectation of success results from their combination (in fact, Matsui teaches away from the suggested modification). The requirements of *M.P.E.P.* § 2142 have not been satisfied, and a *prima facie* case of obviousness has not been established. It is therefore respectfully requested that the rejections to claims 1-16 under 35 U.S.C. § 103 be reconsidered and withdrawn.

**CONCLUSION**

The Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's attorney, Mark Muller at (210) 308-5677, or the Applicant's below-named representative to facilitate the prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 17 day of February 2006.

Chris Hammond

Name

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Signature